Amendments to the Claims

1. (Original) A process for the preparation of ethyleneamines by continuous reaction of ethylenediamine (EDA) in the presence of a heterogeneous catalyst, which comprises carrying out the reaction in a reaction column by means of reactive distillation.

2. (Original) The process for the preparation of ethyleneamines according to claim 1, where the ethyleneamines are diethylenetriamine (DETA), piperazine (PIP), and/or triethylenetetramine (TETA).

3. (Previously presented) The process according to claim 1, wherein the absolute pressure in the column is in the range from > 0 to 20 bar.

4. (Previously presented) The process according to claim 1, wherein the temperature in the section of the column in which the reaction of EDA to ethyleneamines takes place (reaction zone) is in the range from 100 to 200°C.

5. (Previously presented) The process according to claim 1, wherein the number of theoretical plates in the column is in the range from 5 to 100 in total.

6. (Previously presented) The process according to claim 1, wherein the number of theoretical plates in the reaction zone is in the range from 1 to 30.

7. (Previously presented) The process according to claim 1, wherein the number of theoretical plates in the enriching section above the reaction zone is in the range from 0 to 30.

8. (Previously presented) The process according to claim 1, wherein the number of theoretical plates in the stripping section below the reaction zone is in the range from 0 to 40.

9. (Previously presented) The process according to claim 1, wherein the catalyst used in the reaction zone is a catalyst comprising Ni, Co, Cu, Ru, Re, Rh, Pd and/or Pt or a shape-selective zeolite catalyst or a phosphate catalyst.

10. (Previously presented) The process according to claim 1, wherein the catalyst used in the reaction zone is a catalyst comprising Pd and zirconium dioxide support material.

11. (Previously presented) The process according to claim 1, wherein the catalyst is introduced into the reaction column in the form of a loose bed.

12. (Previously presented) The process according to claim 1, wherein the catalyst is introduced into a distillation packing in the form of a loose bed.

13. (Previously presented) The process according to claim 1,wherein the catalyst is in the form of a coating on a distillation packing.

14. (Previously presented) The process according to claim 1, wherein the catalyst is in a retention container situated above the column.

15. (Previously presented) The process according to claim 1,wherein the addition of EDA to the column takes place in liquid from below the reaction zone.

16. (Previously presented) The process according to claim 1, wherein the addition of EDA to the column takes place in a gaseous form below the reaction zone.

17. (Previously presented) The process according to claim 1, wherein the addition of EDA to the column takes place in liquid form above the reaction zone.

18. ((Previously presented) The process according to claim 1, wherein EDA is passed to the column in a purity of >98% by weight.

19. (Previously presented) The process according to claim 1, wherein EDA, piperzine (PIP) and/or other ethyleneamines are introduced into the column.

20. (Previously presented) The process according to claim 1, wherein the reaction is carried out in the presence of hydrogen.

21. (Previously presented) The process according to claim 20, wherein the reaction is carried out in the presence of from 0.0001 to 1% by weight of hydrogen, based on the feed amount of EDA.

22. (Previously presented) The process according to claim 20, wherein the addition of hydrogen to the column takes place below the reaction zone.

23. (Previously presented) The process according to claim 1, wherein a mixture of ammonia and other components with a boiling point lower than DETA (low-boiling components) is removed via the top of the column.

24. (Previously presented) The process according to claim 23, wherein the mixture removed from the top of the column also comprises partial amounts of unreacted EDA.

25. (Previously presented) The process according to claim 23, wherein the mixture removed overhead is partially condensed, and during this ammonia is removed wherein the ammonia is in a form which is more gaseous than non-gaseous, and the liquefied fraction is fed to the column as reflux.

26. (Currently amended) The process according to claim 1, wherein the weight ratio of the amount of reflux in the column to the amount of feed to the column is in the range from ~~01.~~ 0.1 to 30.

27. (Previously presented) The process according to claim 1, wherein a mixture of DETA, piperzine (PIP), TETA and other components with a boiling point higher than DETA (high-boiling components) is removed by the bottom of the column.

28. (Previously presented) The process according to claim 27, wherein the mixture removed by the bottom of the column also comprises partial amounts of unreacted EDA or the total amount of unreacted EDA.

29. (Previously presented) The process according to claim 1, wherein the column below the reaction zone is divided by a side-take off.

30. (Previously presented) The process according to claim 29, wherein unreacted EDA, PIP or mixtures thereof are removed via the side take-off.

31. (Previously presented) The process according to claim 29, wherein product removed via the side take-off comprises DETA.

32. (Previously presented) The process according to claim 29, wherein product produced via the side take-off is removed in liquid form.

33. (Previously presented) The process according to claim 29, wherein product produced via the side take-off is removed in gaseous form.

34. (Previously presented) The process according to claim 1 for producing DETA at a selectivity of >20%, based on EDA, coupled with an EDA conversion of > 30%.

35. (Previously presented) The process according to claim 23, wherein hydrogen is removed with the ammonia.

36. (Previously presented) The process according to claim 25, wherein hydrogen is removed with the ammonia.